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"Did Fuat Sezgin challenge Orientalism? An Evaluation on the Basis of his Science and Technology in Islam"

Fuat Sezgin ha assunto una posizione critica verso l'Orientalismo? Uno studio basato sull'opera "Scienza e tecnologia nell' Islam"

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Did Fuat Sezgin challenge Orientalism? An Evaluation on the Basis of his "Science and Technology in Islam"

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Abstract

This article argues that the superiority of any civilisation over another depends on its scholars' contribution to the different areas of common human heritage.Western civilisation superiority seems to be due to its scholars' contribution not only to their history of science, culture and art but also of other civilisations as well. In this context, this article focuses on Western scholars' contribution to the knowledge of the East in general, and Islamic civilization in particular. The article examines the figure of the Turkish scholar Fuat Sezgin's Science and Technology in Islam and argues that Sezgin did not challenge Orientalism, in fact he worked within its frame of reference and methodology. In fact, Sezgin, at the same time, used Orientalist scholars' methodology, heavily benefited from their previous studies and appreciated their contributions to Islamic civilisation. The article concludes that the panorama presented by Sezgin in this work in the field of science and technique in Islam, can be also introduced in a similar way in relation to other fields and the result will not be different.

Keywords: Islam, History of Science, Fuat Sezgin, Orientalism.

The main feature determining the superiority of a civilization respect to others is closely related to its scholars' capacity and ability to elaborate and offer a deep and reliable knowledge on human heritage by researching both their own history of science, culture and art as well as other civilizations' achievements in the same fields. In our contemporary time, this is actually what seems to make, to such an extend, Western civilization superior to other cultural and historical experiences. Scholars of Western civilization produced and shared, in fact, knowledge not only about their own history, but also on that one of all other civilizations as well. Most remarkably, this knowledge became actually a reference and a framework for both the entire intellectual and scientific world.

In the context of this article, our interest is mainly focused on Western scholars' contribution to the knowledge of the East in general, and Islamic civilization in particular. There is actually a long history of Western scholars' interest in the East, known as Orientalism. In his masterpiece, *Orientalism*, Said gives the most readily accepted designation for Orientalism as follows: "Anyone who teaches, writes about, or researches the Orient ... either in its specific or its general aspects, is an Orientalist, and what he or she does is Orientalism."[1]

Of course, there are different stages and features of Orientalism and Orientalists' interest in the East and each of them has different purposes and goals. However, whatever their purposes and goals may be, in the end they have produced a detailed and precise knowledge on different aspects of both the Eastern and Islamic civilizations. Their methods and findings could be subject to criticism, and actually they have been criticised severely and poignantly even within the Western scholarship, but

[1]Edward Said, *Orientalism: Western Conception of the Orient* (London: Penguin Books, 1995), 2.

this does not undermine their contribution to a reliable and quite informative knowledge of the East or Islamic civilization. Instead, among Muslim scholars and in Islamic scholarship still permanes and persistes the stress on the negative aspect of Orientalism and this viewpoint actually prevent Muslim scholars from acknowledging the Orientalist contribution to Islamic studies. In what follows, I will present a Muslim scholar who choose instead a quite different approach.

Fuat Sezgin (1924-2018) was a Turkish scholars of the history of Arabic-Islamic science. He entered the academic life under the supervision and the mentorship of the Hellmut Ritter (1892-1971), the prominent German Orientalist. After receiving his Ph.D from Istanbul University in 1950, he worked at Ankara University and then at Istanbul University for a while, but after 1960 military coup in Turkey, he was dismissed from the University for non-academic reasons. German Orientalists helped him to find a position in Germany and consequently Sezgin started working at the University of Frankfurt, first as a visiting professor, and from 1965 onward as full professor. In 1982 Sezgin found and directed the Institute of the History of the Arab Islamic Sciences in Frankfurt along with several museums on related topics, in 1983. In 2008 in Turkey, at Istanbul precisely, he was the main founder of a Museum containing, along with other treasures, also the reproductions and models of historical Arabic-Islamic scientific instruments, tools and maps. In order to introduce and explain the instruments displayed in the museum, Sezgin wrote *Science and Technology in Islam*.

Sezgin continued his academic life in the Western Orientalist tradition and through his painstaking studies, he became a renowned scholar of science, who contributed to the coming to light of important studies on the history of Islamic science and other aspects of Muslim civilization.

In fact, his best known publication, the 17 volumes of the *Geschichte des Arabischen Schrifttums* (*History of Arab Literature*), became a standard reference in the field.[2]

However, it seems that the Members of a cultural and scientific environment who did not give to Sezgin the respect due to a scholar of his caliber in his life and who are quite far from his academic worldview, are using his name today to challenge both the West and Orientalism. In the perspective of these intellectuals, Fuat Sezgin became a tool to be used against the West. At the same time, while challenging the West, these scholars seem to lack the capacity and the skill of reading both the scientific and philosophical works of their own civilization, trapped as they are in the futile discussion whether the authors of these valuable works were infidels or heretics, at the same time, also boasting with (or through) them against the West.

As mentioned above, Western scholars have been conducting researches not only on the West, but also on all parts of the world for centuries. Of each cultural area, they produced a more detailed and systematic knowledge than the members of these areas. Of course, very rarely a knowledge is obtained or produced just for the sake of knowledge, and this is also the case. This knowledge, most of the time, was primarily intended at the service of the practical interests of those who produced it, and then - secondarily- to the benefit of the whole humanity. In fact, it is unlikely that all the researchers work with the same academic seriousness and produce reliable knowledge of the same high level or standard. This also applies to those who work on the East in general and Islam in particular.[3]

[2]For Sezgin's life and work, *A Life Dedicated to Science: Prof. Dr. Fuat Sezgin* (http://en.ibtav.org/page/1/biography, Date Accessed: 15. 08. 2020)

[3]Critical evaluation of these works see, for example. Said, *Orientalism*; Norman Daniel, *Islam and the West, the Making of an*

Sezgin himself also focuses the attention on this distinction at the same time acknowledging the sincere efforts of these pionieristic scholars:

"It cannot be expected and claimed naturally that they are all handled with a very precious, objective and friendly view and concluded; among them there are those that are handled theologically which hurt Muslims. When I say orientalist research results, I mean the contribution of humanists who gave most of their lives to the study of Islamic sciences and publication of the resources. Since I have been writing on history of Islamic sciences for 55 years, I encounter their works every day. Today if we know that Islamic cultural world has an important place in the history of science, we owe a huge part of this knowledge to them."[4]

The criticism of Orientalism coming from some circles, who are not at all interested in other civilizations and consider even the scientific, philosophical and artistic works of their own civilization as an unnecessary and sometimes dangerous pursuit, may be seen and interpreted as a reflection of their backwardness, inferiority complex and inability to gain similar success. How does Fuat Sezgin evaluate and judge the contribution of Western scholars to the history of Islamic science, philosophy and art?

I will try to answer this central question referring specially and mainly to his Science and Technology in Islam.[5] Before starting, however, I would like to remind the

Image (Oxford: Oneworld, 1993).

[4]Fuat Sezgin, "Müslümanların Bilimler Tarihinde 800 Yıl Süren Yaratıcı Merhalesini Ne Kadar Tanıyoruz?". *İslâm Bilimler Tarihi Üzerine Konferanslar*, ed. Zeynep Berktaş-Tuğçe İnceoğlu (İstanbul: Timaş Yayınları, 2012), 45.

[5]Fuat Sezgin, *Wissenschaft und Technik im Islam*, Translated into English as *Science and Technology in Islam*, by Renate Sarma and Sreeramula Rajeswara Sarma (Institut fur Geschichte der Arabisch–Islamischen Wissenschaften an der Johann Wolfgang Goethe-Universitat Frankfurt am Main, 2010).

readers of an important point related to Western scholars' general approach to their history, which could be in some cases quite ambivalent. Some Western intellectuals, for example, portrayed one epoch of their history, namely the Middle Ages, as the dark age, while other Western historians demonstrated through well-researched works that this age was not at all dark or totally backward as depicted for a long time by the mainstream scholarship. In this context then, it is equally necessary to re-evaluate Westerns scholars' negative depiction of the history of science, philosophy and art in Islam. At this point, the answers to the following question becomes central: Did Muslim or the Western researchers, throughout their serious intellectual efforts, replace this negative image with a positive one?

As an answer to this question, we can consider the following lines in the preface of Sezgin's work:

"It is true that, since the powerful impetus we owe to J. J. Sedillot, L. A. Sedillot, F. T. Reinaud and F. Woepcke, much has been contributed by the Arabists, who were interested in the history of science, towards modification of the prevalent unfounded notion about the achievements made by the Arabic-Islamic world in the intellectual history of humankind."[6]

At a time when, in the Islamic world, there was no study dedicated to the history of Islamic science, these researchers struggled to change Western academy's viewpoint. These efforts produced in the long run a change of paradigm in the way scholars look at and considered the achievements of Islamic science. As a result, the history of Islamic science gained a totally new place in the Western intellectual and scientific space. It should be kept in mind, however, that these researchers did not aim to

[6]Sezgin, *Science and Technology in Islam, Volume 1: Introduction to the History of Arabic-Islamic Sciences*, trans. Renate Sarma-Sreeramula Rajeswara Sarma, 1/10-11.

prove the indebtedness or superiority of one civilisation on the other. The aim of these researchers is, as was that of Muslim philosophers centuries ago, to emphasize that science and philosophy are cumulative process and that each nation or civilization has contributed to this process and transferred it to the next generation of scholars and scientists. In fact, Sezgin also draws attention to this point quoting an excerpt from Reinaud:

"Chance does not play such an important role in the progress of the technical sciences and the arts. In all its discoveries, humanity moves at an even pace, step by step, not by leaps and bounds. It does not always march ahead with the same speed, but its progress is continuous. Man does not invent, he deduces. If we take any area of human knowledge, its history, that is to say the history of its progress, should form an uninterrupted chain; the factual history provides us with parts of this chain, and our research must consist in finding the lost links so that we can join one part with the other."[7]

In response to the question of who combined these parts, Sezgin clearly says:

"While striving for such a revision, we proceed neither in our basic assumptions nor in our actions in a heuristic manner, but believe in the unity of the history of science, thus adhering to the credo formulated by Reinaud and Fave to the effect that the common scientific heritage of mankind grows by continuous steps, though not always in a linear fashion but though with varying speed. When a particular culture area at a given time takes the lead, or rather, is led to take the scientific heritage further by yet another step, be it large or small, then the historical conditions and the level of progress achieved by the forerunner are the factors that influence the speed and the

[7]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/vii-viii.

progress, if any, of the successor."[8]

Which scholar is particularly prominent in the study of the role and contribution of Islamic tradition in the history of science, philosophy and art in general, and, at the same time, in its effects and influences on European science, philosophy and art, in particular? Sezgin states that Sarton has been the scholar who gave the best contribution in the field of the general history of science:

"To date George Sarton (1884-1956) has been the only historian of science who has made the effort to fully utilize the results of Arabist research. This he did in a masterly way in his Introduction to the History of Science."[9]

Sezgin also states that his deductions and discoveries have not sufficiently be taken into consideration by the next generations of scholars and scientists. Sezgin also mentions Renan with appreciation in the fields of both philosophy and science:

"A rare phenomenon in the history of science is the French Arabist Ernest Renan (1823–1892), who dealt with the issue of the reception of the Arab–Islamic sciences in the West in the field of philosophy. Writing his ingenious and admirable study *Averroès et l'Averroïsme* in 1853, Renan had at his disposal only a small number of sources and he could hardly count on the support of his contemporaries. Nevertheless his work has remained valid to some extent until today."[10]

Sezgin's appreciation of the contributions of Orientalists to various disciplines continues throughout the work.

[8]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/ix-x.

[9]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/2. Reference to George Sarton, *Introduction to the History of Science* (Baltimore, 1927-1948).

[10]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/79. Reference to Ernest Renan, Averroès et l'Averroïsme (Paris 1867).

For example, in relation to the science of music he writes:

"In the field of music and musical theory the question of the "Arabian influence" was addressed, fortunately, quite early-on in comprehensive studies. Not even a century had passed since the first surveys of "Arabian" music by R. G. Kiesewetter and J. G. L. Kosegarten, when the Spanish Arabist Julian Ribera y Tarragó in his *La música de las Cantigas* produced a pioneering work on the question of Arabian influences."[11]

Sezgin states that Heinrich Schipperges has done great services with his researches on the transmission and assimilation of Arabic-Islamic medicine to Europe.[12]

Sezgin mentions also the Russian orientalist W. Barthold, to whom we own important works in the field of the history of geography:

"Barthold describes the role of the Arab–Islamic area in the history of geography with deep respect and appreciation and continues: "Individual Arab maps were already being used by Europeans in the Middle Ages; some works by Arab geographers appeared in Latin translation as early as in the XVIIth century; despite this the detailed and accurate information of the Arabs on the Caspian and Aral Sea, the Oxus and Jaxartes had no influence on European science. What Western Europe could have learnt 800 years earlier from the Arabs was only learnt from the Russians in the XVIIIth century."[13]

Arab-Islamic science has reached Europe in different ways. Two of these roads, namely through Muslim Spain and through Sicily and Southern Italy respectively, are

[11]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/80. Reference to Julian Ribera y Tarragó, *La música de las Cantigas* (Madrid, 1922).

[12]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/83.

[13]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/121.

often referred to and several researches and studies have been dedicated to the topic, but a third way, namely the Byzantine road of transmission, is often unfortunately neglected. According to Sezgin, Usener attracted the attention of historians of science in this overlooked field:

"Hermann Usener already became aware of manuscripts containing Byzantine translations of Arabic–Persian books in European libraries a hundred and thirty years ago. Subsequent research also occasionally drew attention to translations of Arabic books into Byzantine Greek..."[14]

Sezgin states that the Byzantine adventure of Arab-Islamic science was interrupted first due to and in the aftermath of the establishment of Latin Crusader State, as a consequence of the occupation of Byzantium in the 13th century, and later by the disappearance of the produced literature.[15]

More examples could be given, but the above mentioned ones are sufficient for the present research's purpose. Actually I am trying to underline that Sezgin offers a description of the history of Islamic science based on the results of the works and researches of the Orientalists rather than challenging them. In this context, Sezgin's last evaluations are as follows:

"As far as we can judge from the results of research to date, the creativity seems to have begun in the fields of the natural sciences and the exact sciences around the middle of the 3rd/9th century -in individual cases even earlier- and the process of reception and assimilation seems to have been completed towards the end of the century. Creativity continued in all fields with an intensity that can be traced, although it was not always linear, and continued

[14]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/141-142.

[15]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma and Sreeramula Rajeswara Sarma, 1/144.

even with the establishment of new fields of sciences until the 15th century - in individual cases also up to the end of the 16th century."[16]

Who are the researchers who helped us to learn and recognise the place of Arab-Islamic science in the history of science of the Arab-Islamic tradition? We can answer again with Sezgin's clear words:

"However, research into the history of Arabic-Islamic sciences has advanced so much since the commendable pioneering work by the indefatigable scholars Jean-Jacques Sédillot, Louis-Amelie Sédillot, Joseph-Toussaint Reinaud, Franz Woepcke, Michael Jan de Goeje, Eilhard Wiedemann, Carl Schoy, Heinrich Suter and others from the 19th century and the first third of the 20th century, and this research has furnished us with so much convincing material that we - true to our responsibility - must make every attempt to bring about a revision of the prevailing assessment of our subject in the historiography of science."[17]

As a conclusion it can be said that, undoubtedly, the panorama presented by Sezgin in this work in the field of science and technique in Islam, can be also introduced in a similar way in relation to other fields and the result will not be different. Ultimately, science and scientists are the common patrimony of humanity, rather than the special heritage of one single civilization, nation or society. Those who can claim this heritage gain both material and moral superiority over other communities; those who cannot get their share of this heritage have to bear the consequences.

[16]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma-Sreeramula Rajeswara Sarma, 1/148.

[17]Sezgin, *Science and Technology in Islam*, trans. Renate Sarma-Sreeramula Rajeswara Sarma, 1/149-150.

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A Life Dedicated to Science: Prof. Dr. Fuat Sezgin.http://en.ibtav.org/page/1/biography.

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